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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,129	07/12/2006	Anne Kristiina Niemi	PHUS040040US2	6970

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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CLEVELAND, OH 44143

EXAMINER	
FETZNER, TIFFANY A	
ART UNIT	**PAPER NUMBER**
2859	

MAIL DATE	DELIVERY MODE
09/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/597,129	NIEMI ET AL.	
	Examiner	Art Unit	
	Tiffany A. Fetzner	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/12/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on **July 12th 2006** is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statement. The initialed and dated **July 12th 2006** information disclosure statement (IDS) is attached to this office action.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. **Claims 1-8** are rejected under **35 U.S.C. 102(a)** as being anticipated by the article of **ZHANG, Q., et al.**; Improving True-FISP Parallel Cine Imaging using a New Data-acquisition Scheme for Coil Sensitivity Calibration; 2003; Proc. Intl. Soc. Mag. Reson. Med.; 11:2329., which was supplied by the applicant's July 12th 2006 IDS statement and will be referred to hereafter as the **ZHANG et al.,** article.

5. With respect to **Claim 1**, the **ZHANG et al.,** article teaches a 'method of improved coil sensitivity estimation for reducing artifacts in an MRI apparatus utilizing parallel imaging" [See the synopsis and introduction paragraphs], "the method comprising: for a parallel imaging sequence, performing a calibration sequence relative to the parallel imaging sequence," [See the synopsis and introduction paragraphs], "using one of: a spin echo type sequence matching the in-plane phase encode direction of the calibration and the parallel imaging sequences for each calibration; and a gradient echo type sequence matching the in-plane phase encode direction of the calibration and the parallel imaging sequences for each calibration" [See the Pulse sequence of figure 1 where the direction of the in-plane phase encoding gradient is

shown to match for each calibration and the parallel imaging sequences for each calibration". See also the entire article on page 2329.]

6. With respect to **Claim 2**, the **ZHANG et al.,** article teaches "the calibration sequence is performed for each parallel imaging sequence." [See the synopsis paragraph] The same reasons for rejection, that apply to **claim 1** also apply to **claim 2** and need not be reiterated.

7. With respect to **Claim 3**, the **ZHANG et al.,** article also teaches that it is also known to perform the calibration sequence is performed prior to each said parallel imaging sequence." [See the introduction paragraph] The same reasons for rejection, which apply to claims 1, **2** also apply to **claim 3** and need not be reiterated.

8. With respect to **Claim 4**, the **ZHANG et al.,** article teaches performing the calibration sequence with a **TE time of 0.97ms** in the Methods paragraph, therefore the **ZHANG et al.,** article teaches that the "calibration sequence is performed with a very short echo time, e.g. **less than 5 ms**." The same reasons for rejection, that apply to **claim 1** also apply to **claim 4** and need not be reiterated.

9. With respect to **Claim 5**, the **ZHANG et al.,** article shows from figure 1 the step of "using an essentially identical read out gradient in both the calibration sequence and the parallel imaging sequence" referenced in the synopsis and introduction paragraphs.] The same reasons for rejection, that apply to **claim 1** also apply to **claim 5** and need not be reiterated.

10. With respect to **Claim 6**, the **ZHANG et al.,** article shows from figures 1, 2, and 3 that "a phase encode direction of said calibration sequence is essentially directed in along a phase encode direction of said parallel imaging sequence." {See figures 1, 2, and 3]. The same reasons for rejection, that apply to **claim 1** also apply to **claim 6** and need not be reiterated.

11. With respect to **Claim 7**, the **ZHANG et al.,** article teaches that the 1.5T Magnetorn Sonata was utilized to perform the procedure, on which the **ZHANG et al.,** article parallel imaging sequence with calibration sequence was implemented, with images being reconstructed from the implemented sequence, therefore the **ZHANG et al.,** article teaches "an MRI apparatus having a sequence controller programmed to

perform the method as set forth in claim 1" because MRI sequences are intrinsically and necessarily performed by programmable computer controllers, because the speed of the timings and the calculations involved require a computer implementation. The same reasons for rejection, which apply to any one of **claims 1-6** also apply to **claim 7** and need not be reiterated.

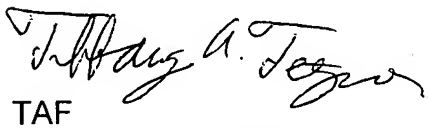
12. With respect to **Claim 8**, the **ZHANG et al.,** article also teaches An MRI apparatus" (i.e. the Magnetorn Sonata) "that includes a magnet system for generating a B0 1.5 Tesla magnetic field in an examination zone"[Se the methods paragraph], "the apparatus comprising: means for exciting and manipulating magnetic resonance in the examination zone; means for spatially encoding the magnetic resonance; plurality of coils with differing sensitivity profiles for receiving resonance signals in parallel; means for reconstructing received resonance signals into image representations; means for generating sensitivity profiles of the coils from image representations generated during a calibration scan; means generating a diagnostic image from the sensitivity profiles and image representations generated during a diagnostic scan; sequence control means for accessing a calibration sequence memory means to retrieve one of an RF refocused spin echo type sequence and a gradient recalled echo type sequence and controlling the resonance exciting means and the spatial encoding means in accordance with the retrieved calibration sequence to generate resonance signals for the reconstruction means to reconstruct into the calibration image representations and for accessing a diagnostic imaging sequence memory means to retrieve a diagnostic imaging sequence and controlling the resonance exciting means and the spatial encoding means to generate resonance signals for the reconstruction means to reconstruct into the diagnostic image representations." [See figures 1 through 3 and the synopsis, introduction, Methods, Results and Discussion paragraphs of the **ZHANG et al.,** article for the components and means by which each of the disclosed method steps are actualized on the Magnetorn Sonata in the **ZHANG et al.,** article. The same reasons for rejection, that apply to **claim 1** also apply to **claim 8** and need not be reiterated.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tiffany Fetzner whose telephone number is: (571) 272-2241. The examiner can normally be reached on Monday-Thursday from 7:00am to 4:30pm., and on alternate Friday's from 7:00am to 3:30pm.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez, can be reached at (571) 272-2245. The **only official fax phone number** for the organization where this application or proceeding is assigned is **(571) 273-8300**.

15. Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PMR only. For more information about the PMR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PMR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TAF
September 17, 2007

Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800